Emission Inventory Improvement Program

April 1999

U P D A T E

EIIP Needs Your Ideas

In the coming month, members of STAPPA/ALAPCO--the State and Territorial Air Pollution Program Administrators and Association of Local Air Pollution Control Officials--will vote on whether to continue EIIP. The result of this vote will be discussed at the May meeting of the Standing Air Emissions Work Group (SAEWG), which will be held in conjunction with the STAPPA/ALAPCO meeting. For these discussions to be most beneficial, we need to have your ideas and recommendations for how the program should proceed.

If EIIP continues:

- What new areas should we develop (i.e., training, special projects, mobile issues)?
- Is there a better organizational structure for EIIP than that of the current committees (e.g., point and area sources, quality assurance, PM-2.5)?
- How do we get wider participation from state and local agencies?

If EIIP is to complete its activities:

- How should current guidance documents be maintained?
- What documents under development need to be completed?
- Should new documents be developed before all funds are expended?
- What "housekeeping" tasks does the inventory community want EIIP to complete?

The EIIP Steering Committee will combine your suggestions with those received from the working committees. If the vote is to continue, a new proposal will be prepared for STAPPA/ALAPCO approval. If agency directors vote to end the program, the EIIP Steering Committee will use your suggestions to help prioritize final work for each working committee.

Please send your ideas as soon as possible to Steve Bromberg, by sending e-mail to: "bromberg.steve@epamail.epa.gov" or by calling (919) 541-1000. We want to have our plan prepared by early summer.

User Feedback: EIIP Guidance Receives Industry Praise, Improves Communication With State Agency

For some time, EIIP has been receiving feedback from various groups in the inventory community on the quality and usefulness of EIIP guidance. These comments are used by the EIIP to improve our products. Some provide interesting reading. Recently, an engineer at a major chemical company was preparing an inventory for his facility in Georgia. After contacting the state agency for assistance, the engineer was told by the state that EIIP guidance had been adopted as their "official procedures" and should be used for emissions inventory calculations. Several of the processes the engineer was examining were addressed by the EIIP Point Sources guidance chapter on Paint and Ink Manufacturing. The company examined the EIIP guidance and reported back to the state that it was extremely useful. The chapter was thorough and well organized. The technical content was "spot on" and was the most helpful reference on these processes that he had seen in 10 years of process assessment and emission inventory work.

In this case, EIIP guidance helped bring the state agency and industry to a common understanding on how best to approach a particular set of emission sources. It helped open up a very positive dialogue between the two groups and laid a foundation for improved cooperation and understanding in the future. With both groups fully using EIIP guidance, they are hopefully now "speaking the same language."

Please let us know of your experiences with any of the EIIP publications.

The EIIP Data Management Committee Declares Victory!

The original goal for the Data Management Committee (DMC) was to facilitate the development of a standard data transfer procedure that could be used by the emission inventory community. The DMC undertook its mission in a practical, forward-looking manner and established two objectives: (1) Use a rigorous entity relationship modeling technique to document and communicate the information needs of the emission inventory community; and (2) Apply the resulting product in the design of a standard, program-neutral electronic data transfer procedure for use by the emission inventory community.

The DMC has successfully achieved these objectives by developing the EIIP Phase I Data Model and the EIIP Electronic Data Interchange (EDI) X12 standards for air emission inventories. The products of these DMC efforts are posted on the EIIP World Wide Web site (www.epa.gov/ttn/chief/eiip/) and include "in-progress" summaries as technical reports and conference papers.

With the support of its contractor, Eastern Research Group, Inc., the DMC members waded through the laborious task of preparing a thorough data model with complete documentation, including entity relationship diagrams (ERDs), data attribute tables, and code definitions. The majority of the work was done via conference calls over a period of 2 ½ years. Several expert panel meetings were held to assemble state and local emission inventory staff whose area(s) of specialty helped validate the different portions of the data model. The EIIP Phase I Data Model has been used for the following developments:

- EIIP EDI X12 standards for exchanging air emission inventory data;
- EPA's new National Emissions Trends (NET) database and NET Input Format for receiving state and local data, storing the data, and distributing the national emission inventory;
- EPA's new National Toxics Inventory (NTI) database;
- New state and local emission inventory databases; and
- EPA's Phase II integrated air emissions reporting project for industry (under Reinventing Environmental Information--REI).

These are significant improvements and indicate a continued, high rate of return from the DMC's initial rigorous analysis of the emission inventory community and its needs. We expect that the EIIP data model will continue to be a robust standard reference for many years.

The DMC applied the Phase I Data Model to an existing EDI X12 standard and implemented a prototype EDI system to test and demonstrate the successful transfer of air emissions inventory data between two state agencies and the EPA. While EDI X12 has been used widely in private sector applications to standardize data transfer, its use for exchanging environmental data is more recent and is supported by the EPA, other federal agencies, and industry. The EPA is actively investigating the use of EDI as well as other forms of electronic commerce to determine "which shoe fits best" to reduce the electronic data reporting burden to industry and state and local governments (see http://www.epa.gov/ec_edi). The EIIP EDI X12 prototype experience is now a "lessons learned" model being used in EPA's ongoing efforts to streamline and automate data exchanges among industry, environmental agencies, and the public.

A subcommittee of the DMC was formed in 1997 to determine if the EPA's present Source Classification Code (SCC) system can be improved and redesigned. While the original objectives of the DMC are now satisfied, the efforts of the more recent SCC Subcommittee continue. Information about their issues and results are located on the EIIP Web site.

PM-2.5 Committee Prepares State of Science Paper and Starts Web Page

In July 1997, the National Ambient Air Quality Standards (NAAQS) for particulate matter (PM) were revised and a new indicator size fraction, PM-2.5, was specified for the first time.

Moreover, the EPA expects to finalize rules for regional haze later this year; regional haze is caused by light scattering and absorption due to fine particles. Almost all fine particles either emanate directly from combustion or are formed in the atmosphere from gaseous byproducts of combustion. A nationwide inventory of these particle and gaseous precursor emissions is needed because fine particles are often transported long distances. However, since previous regulatory programs for PM focused on larger particles of mostly crustal origin, the emissions database for fine particles has been largely ignored -- a low priority in all but a relative handful of U.S. counties. It is important and timely to identify what information is available, and give direction and training to the inventory community. To begin this task, the EIIP PM-2.5 Committee was formed at the request of the EIIP Steering Committee.

The first task of the PM-2.5 Committee was to develop a paper discussing the State of the Inventory Science (SOIS) of PM-2.5 Emissions Inventory Development. This paper is essentially finished and will be available as an EIIP document very soon. This document serves several purposes. First, it provides an overview about the pollutant, its precursors, and how the secondary part of PM-2.5 is formed in the atmosphere from these precursors. Second, it discusses typical sources of PM-2.5 and its precursors, and shows how its composition in the ambient air varies regionally. Third, the paper provides an overview of emission factors and inventory methods. Fourth, it relates available tools and data to specific source types and recommends initial priority activities for both the EPA and the states to pursue.

The PM-2.5 SOIS paper highlights the need to organize and make readily available the growing library of resource materials that are needed to understand the pollutant and to plan and develop an inventory. The committee has decided that organizing this information on a World Wide Web page would be useful and allow users to easily locate (and link to) helpful information on other Web sites. Thus, this will not only be a resource to use to get started on a PM-2.5 inventory, users could also find inventory tools and guidance as well as information on planning, developing, and conducting quality assurance for an inventory, and procedures for incorporating it into the EPA's NET Inventory. The committee is now working to identify the resource material and design the Web page.

Planning this Web page spawned a committee discussion on the need for training. The committee is very interested in supporting the preparation and presentation of training materials on all aspects of PM-2.5 inventories. In the future, the committee will focus both on developing materials to improve an inventory and on training state and local staff on their use. Preliminary plans are to develop training modules that are organized consistent with the structure of the Web page. This will make the training even more effective because the Web page will provide ready access to updates on guidance, tools, and inventory procedures.

The committee will continue to help EPA identify needs and set priorities for emission factor development and inventory improvements in addition to the Web page and training activities.

Committee Activity Summaries

Point Sources Committee

What has been accomplished?

Existing technical information and procedures has been identified to develop guidance documents to standardize the development of emissions inventories for 12 source categories. The guidance documents provide in one place a compilation of available procedures, with recommendations on how to use the information and how to judge its reliability. The guidance documents serve as powerful training tools for both experienced and novice inventory personnel.

One of the most important successes of EIIP and the Point Sources Committee (PSC) is the value added in the area of effective communications. The PSC has:

- Established a framework for sharing ideas, gathering information, and working harmoniously with representatives from industry, trade associations, EPA, and state agencies;

- Brought industry and regulators together, working towards a common goal, more accurate inventories; and

- Opened avenues of communication and, as a result, relationships between regulators (at the state and federal level) and industry, as well as between the regulators themselves (states and EPA) have improved.

What are recent committee products?

- Chapter 6, *Semiconductor Manufacturing*, was finalized in February 1999 and uploaded to the EIIP Web site.

- Chapter 10, *Oil and Gas Field Production and Processing Operations*, was revised and is being sent out for an additional round of external review.

- Chapter 11, *Plastic Products Manufacturing*, was finalized in December 1998 and uploaded to the EIIP Web site.

What activities are planned?

The PSC is working on a document entitled *Air Pollution Control Device Efficiencies and the Effects of Malfunctions on Emission Inventories.* Planning of this document is now underway and the committee expects to compile information on control device efficiencies, discuss the expected reliability of selected control devices, and address the effects of malfunctions and process upsets on emissions and rule effectiveness.

Area Sources Committee

What has been accomplished?

The EIIP Area Sources Committee (ASC) has been active for more than 4 years, and has produced 16 guidance methods documents for use by the inventory community. EIIP products provide tools that can be custom-fit to a state or local agency's needs at a fraction of the cost of doing it entirely on their own. In terms of value added to the states, EIIP guidance:

- Provides methods for the source categories emitting 95 percent of the volatile organic compounds (VOCs) reported for area sources;
- Offers flexible options that allow users to choose the best methods for their geographic area and their air program;
- Provides technical expertise, documentation, and training of a value well beyond the cost to a single state or local agency; and
- Provides a forum for the inventory community to learn and share the experiences and perspectives of others, and gain skills from the synergy of being part of a group with common goals.

What are recent committee products?

- Chapter 16, *Open Burning*, external review draft was completed and uploaded to the EIIP Web site.
- Chapter 17, *Asphalt Paving*, was finalized and uploaded to the EIIP Web site.
- Chapter 18, *Structure Fires*, external review draft was completed and uploaded to the EIIP Web site.
- Methods Abstracts are being prepared for Charbroiling, Asphalt Roofing Kettles, Bakeries, Residential/Commercial Fuel Combustion, and Leaking Underground Storage Tanks.
- Chapters have been begun on fugitive dust from Unpaved Roads and ammonia from Agricultural Operations.
- Draft list of Frequently Asked Questions (FAQs) and answers for area sources has been prepared.

What activities are planned?

- Finalize the FAQ list and upload it to the EIIP Web site;

- ♦ Finalize chapters on Agricultural Waste Burning, Prescribed Burning, and Wildfires after incorporation of comments from U.S. Department of Agriculture and U.S. EPA policy reviews;

- ♦ Extensively revise draft Chapter 13, *Autobody Refinishing*, based on new data that have become available;

- ♦ Continue to look for opportunities to add more PM source categories and air toxics data to the guidance; and

- ♦ Continue reviewing existing ASC guidance to identify document maintenance needs.

Projections Committee

What has been accomplished?

The Projections Committee has been continuing to develop its projections guidance document by working through the major source categories and defining those methods and models applicable to each. This "living" document contains links to related World Wide Web sites, and other electronically available data that will, in theory, get updated each time a linked site or document gets revised. The committee hopes this approach will keep the document current, timely, and act as a replacement for existing projection procedure documents.

What are recent committee products?

Review drafts of the projections guidance Overview, Non-road Mobile Sources, and Point Sources chapters have been compiled and are available for review on the EIIP Web site. The committee welcomes any comments or suggestions concerning any aspect of the documents and material contained therein.

What activities are planned?

The current plan is to complete the Projections Committee's volume with additional chapters addressing Stationary Area and Onroad Mobile Source categories by the end of spring 1999.

Greenhouse Gas Committee

What has been accomplished?

The Greenhouse Gas (GHG) Committee of the EIIP is dedicated to improving the quality, reliability, and verifiability of inventories of sources and sinks of GHGs. The committee was created to champion the development of high quality GHG inventories, primarily at the state and local level. The committee, since its adoption by the EIIP, has been one of the most successful EIIP committees in producing inventory guidance. The committee's work augments very well the GHG guidance contained in the EPA document *State Workbook: Methodologies for Estimating Greenhouse Gas Emissions*. The ability of individual states to effectively and

efficiently assemble GHG inventories has been significantly increased by the work of this committee.

What are recent committee products?

The committee has drafted and made available on the EIIP Web site 14 GHG guidance documents. These documents address GHG emissions from Fossil Fuel Combustion, Industrial Processes, Municipal Waste Disposal, Manure Management, Agricultural Soils, Agricultural Waste Burning, and Municipal Wastewater Treatment; methane emissions from Coal Mining, Natural Gas and Oil Systems, Domesticated Animals, Flooded Rice Fields, Mobile Sources, and Stationary Combustion; carbon dioxide from Forest Management; and nitrous oxide from Stationary and Mobile Combustion Sources.

What activities are planned?

Following the incorporation of comments on the 14 draft documents, the committee will finalize all documents for publication and place them on the EIIP Web site. The committee will continue to evaluate other EIIP guidance documents to identify cases where GHG information can be added or improved.

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